

THE GENUS *PSEUDUVARIA* MIQ. (ANNONACEAE) IN AUSTRALIA

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Summary

Three new species and one new variety in *Pseuduvaria* Miq. from north-eastern Queensland are described. They are *P. hylandii*, *P. villosa*, *P. mulgraveana* var. *mulgraveana* and *P. mulgraveana* var. *glabrescens*.

The palaeotropical genus *Pseuduvaria* currently with about 35 species was first proposed by Miquel (1858) but remained in obscurity following inclusion in *Mitrephora* by Bentham and Hooker (1862) until Merrill (1915) proposed its recognition and made several new combinations. Sinclair (1955, 1956) and others accepted Merrill's viewpoint and published additional species.

In Australia, Mueller (1887) followed the Bentham and Hooker concept when describing *Mitrephora froggattii* F.Muell. from Queensland. This species was transferred to *Pseuduvaria* by Jessup (1986). Three new species and one new variety, all from north-eastern Queensland, are here described.

Living plants of all species were studied. Floral and fruit measurements provided were taken from material preserved in spirit.

PSEUDUVARIA

Pseuduvaria Miquel, Fl. Ind. Bat. 1(2): 32 (1858). **Type:** *Pseuduvaria reticulata* (Blume) Miquel based on *Uvaria reticulata* Blume.

Dioecious shrubs or trees. Leaves with slightly curved, \pm parallel secondary veins; tertiary venation scalariform-reticulate. Flowers cauline, ramal, axillary or sometimes terminal, solitary or several, sometimes many in fascicles. Pedicels slender, slightly tapering, thickened towards the flower; bracts 2, basal and submedial or suprabasal; articulation between the bracts. Calyx lobes 3, valvate. Petals 6, in 2 series, valvate; outer 3 larger than calyx lobes, spreading or reflexed; inner 3 larger than outer, each with a trullate, broadly rhombic or obtrullate blade and a narrow claw; blade margins coherent forming a trifenestrate dome-like cap; blades with 2 raised glands on inner surface; claw shorter than blade. Torus rounded, pilose. Male flowers: stamens *ca* 60, truncate-cuneate; connective flat-topped, concealing anthers. Female flowers: staminodes usually 6-18. Ovaries numerous, the peripheral ones incurved; ovules few, superposed; stigma sessile, depressed capitate with an adaxial radial slit. Ripe monocarps sessile in Australian species. Seeds 1-several, transverse ellipsoid with a circumferential groove.

Distribution: The genus is distributed through Burma, Indo-China and Malesia to Papua New Guinea and Australia.

Key to Species

1. Pedicels 7-25(-32) mm long; submedial bract 1.2-3 mm long. Testa rugose 2
- Pedicels 30-50 mm long; submedial bract 0.5-1 mm long. Testa scrobiculate 3
2. Flowers in cauline many-flowered fascicles as well as ramal and axillary; pedicels 15-25(-32) mm long. Glands on inner petals prominently raised, discrete 1. ***P. froggattii***
- Flowers ramal and axillary, solitary or up to 4 per fascicle; pedicels 7-11 mm long. Glands on inner petals slightly raised, contiguous 2. ***P. hylandii***

3. Calyx lobes broadly ovate to depressed ovate, 1.5–2.2 mm long. Outer petals obovate, suborbicular or depressed obovate, obtuse or very shortly acuminate, 6–8 mm × 6–8 mm. Leaf undersurface and petiole hirtellous, glabrescent **3. *P. mulgraveana***

Calyx lobes ovate or triangular, 2.5–4 mm long. Outer petals broadly ovate, acute or acuminate, 10–15 mm × 8–10 mm. Leaf undersurface and petiole villous **4. *P. villosa***

1. *Pseuduvaria froggattii* (F.Muell.) Jessup, *Austrobaileya* 2(3): 227 (1986).

Mitrephora froggattii F.Muell., *Australas. J. Pharm.* 2: 3 (1887). **Syntypes:** Mossman River, Qld., in 1886, *W.Sayer* 145 MEL 670807, *W.Sayer* 145 & *W.Froggatt* MEL 670808, *W. Sayer* MEL 670809 (all MEL).

Tree to 8 m high and 15 cm d.b.h. Innovations pubescent, glabrescent. Leaves elliptic to lanceolate, acuminate, glabrous. Lamina 10–20(–30) cm × 3–7(–9) cm; base obtuse or rounded, rarely acute; midvein sunken above, raised below; secondary veins mostly 7–10 pairs. Petiole grooved above, 4–10 mm long, glabrous. Inflorescence cauline, ramal or axillary in males, cauline or ramal in females; many-flowered fascicles if cauline or ramal, or flowers solitary or few if axillary. Flowers ± pendulous; pedicels 15–32 mm long, puberulent; submedial bract 1.2–2 mm long. Calyx lobes broadly ovate or suborbicular, obtuse or shortly acuminate, 2–3 mm long, puberulent outside, glabrous inside. Outer petals spreading, broadly obovate to suborbicular, obtuse or rounded, 9–9.5 mm × 7.5–8 mm, puberulent, glabrescent outside, glabrous inside. Inner petals puberulent outside, glabrous inside; dome 8.5–12 mm long and 9–12 mm diameter; blades 7–12 mm wide; glands prominently raised, discrete. Male flowers: stamens 0.6–1.1 mm × 0.7–0.8 mm. Female flowers: ovaries *ca* 38, pilose; ovules 2 or 3. Ripe monocarpis obovoid-ellipsoid or ovoid, 15–20 mm long, puberulent, orange-yellow. Seeds 1 or 2; testa rugose, brown. **Fig. 1.**

Specimens examined. Queensland. COOK DISTRICT: Pilgrim Sands, NW of Cape Tribulation, 16°04'S, 145°27'E, Nov 1984, *Jessup* 611 (BRI,K,L,MEL,MO), 612 (BRI,K,L,MO,QRS,U), Sep 1980, *McKenzie* (BRI); Oliver Creek, 16°06'S, 145°27'E, May 1972, *Webb & Tracey* 11590 (BRI); 16°08'S, 145°27'E, Oct 1979, *Gray* 1540 (BRI,QRS); 16°00'S, 145°25'E, Oct 1975, *Hyland* 3337 R.F.K. (BRI,QRS); Portion 62 Alexandra, 16°10'S, 145°25'E, Dec 1972, *Hyland* 6611 (BRI,QRS), Dec 1973, *Hyland* 7173 (BRI,QRS), Oct 1975, *Hyland* 8481, 8482 (BRI,QRS); Stewart Creek, Upper Daintree, 16°2–'S, 145°1–'E, Jan 1983, *Sankowsky* 248, 249 & *Sankowsky* (BRI); Intake, Mossman, 16°27'S, 145°22'E, Sep 1948, *Smith* 3968 (BRI); Mossman Gorge, Oct 1964, *Schodde* 4162 (BRI); Mossman River near entrance to Mossman Gorge National Park, 16°28'S, 145°21'E, Dec 1982, *Jessup* 543 (BRI,U), 546 (BRI,MEL), 547 (BRI,NSW), 548 (BRI,CANB); near lookout beside road from Julatten to Mossman, 16°33'S, 145°24'E, Dec 1982, *Jessup* 542 (BRI).

Distribution and Habitat: This species is recorded from north of Cape Tribulation to just south of Mossman, in northern Queensland and occurs as a subcanopy tree in mesophyll vine forest on lowlands and foothills on colluvia and metamorphics.

2. *Pseuduvaria hylandii* Jessup, *sp. nov.*

Arbor usque 13 m alta. Folia lanceolata vel elliptica, interdum oblanceolata, acuminata vel acuta, glabra. Lamina 6–15(–20) cm longa et 2–6 cm lata; basi acuta interdum obtusa. Petiolus 4–5 mm longus. Inflorescentia ramala, axillaris vel terminalis; flores solitari vel in fasciculis usque 4. Pedicelli 7–11 mm longi, puberulenti; bractea submedia 2–3 mm longa, subamplectens. Lobi calycis depressi ovati breviter acuminati, exter puberulenti intra glabri. Petala exteriora late depressa ovata vel suborbicularia obtusa vel rotundata, 5.5–6 mm longa et 6–7 mm lata, exter pubescentia intra glabra. Petala interiora exter velutinosa intra glabra; tholus 9.5–14 mm longus et 8–10 mm diametro; laminiae 6.5–8 mm latae. Flores masculi: stamina 0.7–1 mm longa et 0.6–0.8 mm lata. Flores feminei: ovaria circa 28, pilosa; ovula 2. Monocarpia matura obovoidea vel subglobularia, 17–23 mm longa, puberulenta glabrescentia, armeniaca. Semina 1–2; testa rugosa, brunnea. **Typus:** Timber Reserve 1230, Boonjee Logging Area, 17°22'S, 145°44'E, 6 Oct 1977, *B.Gray* 731 (male) (holo: BRI; iso: QRS).

Tree to 13 m high and 30 cm d.b.h. Innovations puberulent, glabrescent. Leaves lanceolate or elliptic, sometimes oblanceolate, acuminate or acute, glabrous. Lamina 6–15(–20) cm × 2–6 cm; base acute, sometimes obtuse; midvein sunken above, raised below; secondary veins mostly 7–10 pairs. Petiole ± channeled above, 4–15 mm long, glabrous. Inflorescence ramal, axillary or terminal; flowers solitary or in fascicles of up to 4. Pedicels 7–11 mm

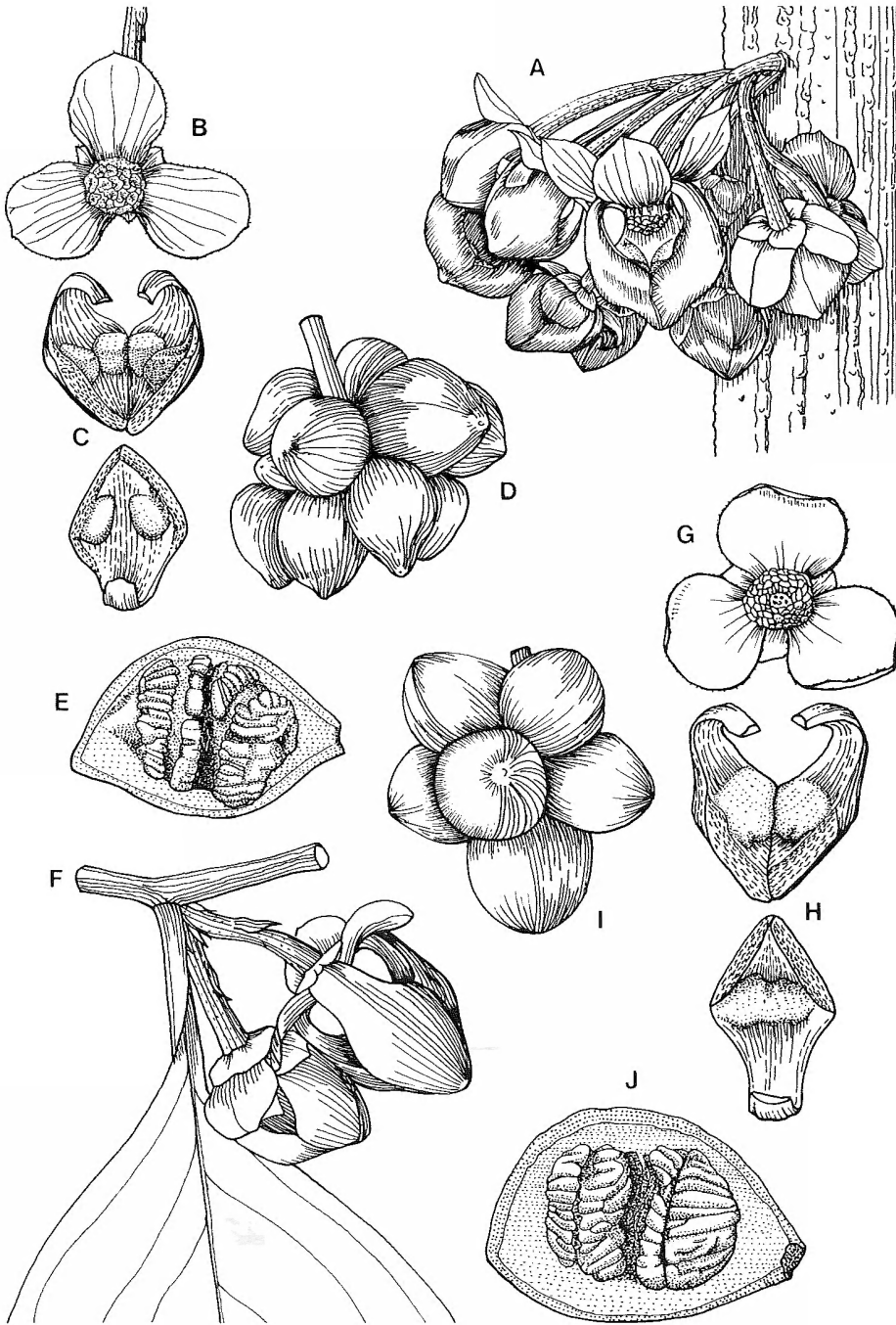


Fig. 1. *Pseuduvaria froggattii*: A. cauline inflorescence (Jessup 546) \times 2. B. female flower with inner petals removed (Jessup 546) \times 2. C. inner petals (Jessup 546) \times 2. D. fruit (Jessup 612) \times 1. E. L.S. monocarp with 2 seeds (Sankowsky 248) \times 1. *P. hylandii*: F. inflorescence (Gray 731) \times 2. G. male flower with inner petals removed (Gray 731) \times 2. H. inner petals (Gray 731) \times 2. I. fruit (Hyland 7192) \times 1. J. L.S. monocarp with 2 seeds (Hyland 7192) \times 1.

long, puberulent; submedial bract 2–3 mm long, semi-clasping. Calyx lobes depressed ovate, shortly acuminate, 2–3.5 mm long, puberulent outside glabrous inside. Outer petals broadly or depressed ovate or suborbicular, obtuse or rounded, 5.5–6 mm × 6–7 mm, pubescent outside, glabrous inside. Inner petals velutinous outside, glabrous inside; dome 9.5–14 mm long and 8–10 mm diameter; blades 6.5–8 mm wide; glands slightly raised, contiguous. Male flowers: stamens 0.7–1 mm × 0.6–0.8 mm. Female flowers: ovaries *ca* 28, pilose; ovules 2. Ripe monocarps obovoid or subglobular, 17–23 mm long, puberulent, glabrescent, orange-yellow. Seeds 1 or 2; testa rugose, brown. **Fig. 1.**

Specimens examined. Queensland. COOK DISTRICT: State Forest Reserve 310, Swipers Logging Area, 17°15'S, 145°45'E, Oct 1968, *Hyland* 1986 R.F.K. (BRI); West Mulgrave River, 17°20'S, 145°47'E, Nov 1982, *Jessup* 536 (BRI,K,QRS,U); Timber Reserve 1230, Boonjee Logging Area, 17°22'S, 145°44'E, Oct 1977, *Gray* 731 (BRI,QRS); 17°24'S, 145°45'E, Sep 1976, *Hyland* 3443 R.F.K. (BRI,QRS); 17°25'S, 145°45'E, Oct 1973, *Hyland* 2914 R.F.K. (BRI,QRS); Dec 1973, *Hyland* 7155 (BRI,QRS); Feb 1974, *Hyland* 7192 (BRI,QRS).

Distribution and Habitat: This species is known to occur only in the upper catchments of the Mulgrave and Russell Rivers, in northern Queensland and occurs in mesophyll vine forest on soils derived from metamorphics, sometimes basalt enriched.

Affinities: *P. hylandii* appears most closely related to *P. froggattii* and differs by being not cauliflorous, by shorter pedicels, larger floral bract, smaller petals, and inner petal glands being only slightly raised and contiguous.

Etymology: The species is named in honour of Mr. B.P.M. Hyland of Atherton who collected the first specimens in 1968.

3. *Pseuduvaria mulgraveana* Jessup, *sp. nov.*

Arbor usque 7 m alta. Folia lanceolata oblanceolata obovata vel raro elliptica, acuminata vel interdum acuta, supra glabra vel hirtella infra glabrescentia. Lamina 5–16 cm longa et 2–7 cm lata; basi rotundata interdum parum cordata et asymmetrica. Petiolus 2–4 mm longus, hirtellus. Flores axillares, terminales vel superi ramali, pendentes solitarii vel increbre 2 vel 3 invicem maturantes. Pedicellii 30–40 cm longi, puberulenti; bractea submedia 0.5–1 mm longa. Lobi calycis late ovati ad depressi ovati, obtusi acuti vel breviter acuminati, 1.5–2.2 mm longi, exter puberulenti intra glabri. Petala exteriora obovata suborbicularia vel depressa obovata, obtusa vel breviter acuminata, 6–8 mm longa et 6–8 mm lata, exter puberulenta intra glabra. Petala interiora exter puberulenta intra glabra; tholus 10–14 mm longus et 10.5–13 mm diametro; laminae 10–12 mm latae. Flores masculi: stamina 1.1–1.3 mm longa et 0.8–1 mm lata. Flores feminei: ovaria circa 28, pilosa; ovula 1 vel 2. Monocarpia matura ovoideae rotundata vel breviter acuta, 15–22 mm longa, puberulenta, armeniaca. Semina 1–2; testa scrobiculata, porphyrea. **Typus:** Queensland, Cook District: Goldsborough State Forest, Mulgrave River, 17°15'S, 145°46'S, 11 Dec 1984, *L.W. Jessup* 746 (male) (holo: BRI; iso: K,L,QRS).

Misapplied name: *Mitrephora froggattii* auct. non F. Muell.; B.P.M. Hyland, A Card Key to the Rainforest Trees of North Queensland. Department of Forestry, Queensland (1971); A Revised Card Key to the Rainforest Trees of North Queensland, CSIRO, Melbourne (1982); J.G. Tracey, The Vegetation of the Humid Tropical Region of North Queensland, CSIRO, Melbourne (1982).

Tree to 7 m tall and 10 cm d.b.h. Branchlets ± flexuose. Innovations puberulent or villous with light brown hairs. Leaves lanceolate, oblanceolate, obovate or rarely elliptic, acuminate or sometimes acute, glabrous or hirtellous above, sparsely hirtellous, glabrescent below. Lamina 5–16 cm × 2–7 cm; base rounded, sometimes slightly cordate and asymmetric, midvein sunken above, raised below; secondary veins mostly 7–10 pairs. Petiole nearly flat above, 2–4 mm long, hirtellous. Flowers axillary, terminal or upper ramal, pendulous, solitary or frequently 2 or 3 maturing successively. Pedicels 30–40 mm long, puberulent; submedial bract 0.5–1 mm long. Calyx lobes broadly ovate to depressed ovate, obtuse, acute or shortly acuminate, 1.5–2.2 mm long, puberulent outside, glabrous inside. Outer petals obovate, suborbicular or depressed obovate, obtuse or very shortly acuminate, 6–8 mm × 6–8 mm, puberulent outside, glabrous inside. Inner petals puberulent outside, glabrous inside; dome 10–14 mm long and 10.5–13 mm diameter; blades 10–12 mm wide. Male flowers: stamens 1.1–1.3 mm × 0.8–1 mm. Female flowers: ovaries *ca* 28, pilose; ovules 1 or 2. Ripe monocarps obovoid, rounded or shortly pointed, 15–22 mm long, puberulent, orange. Seeds 1 or 2; testa scrobiculate, red-brown. **Fig. 2.**

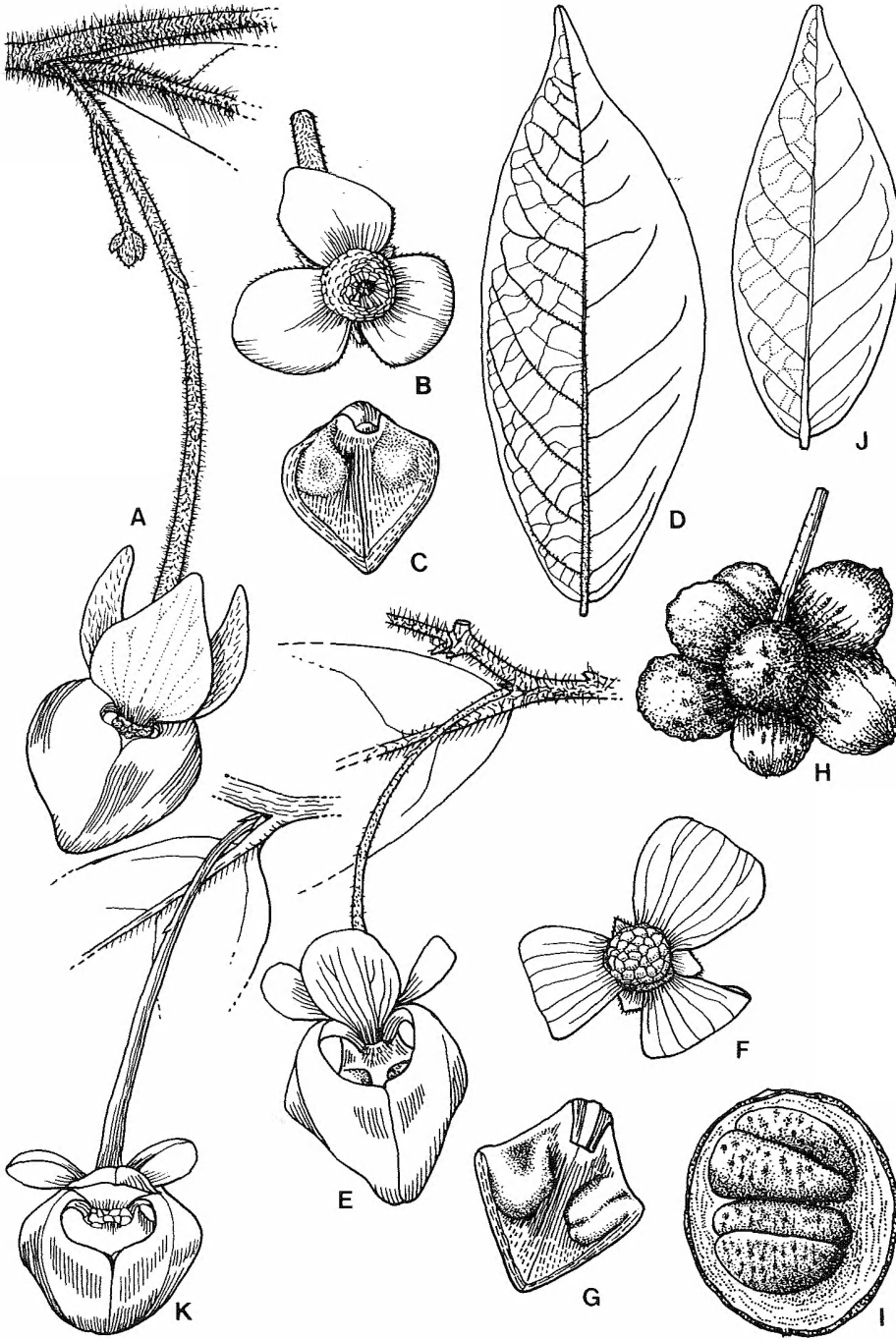


Fig. 2. *Pseuduvaria villosa*: A. flower (Jessup 472 & Tracey) $\times 2$. B. male flower with inner petals removed (Sankowsky 464) $\times 2$. C. single inner petal (Jessup 472 & Tracey) $\times 2$. D. leaf (Jessup 472 & Tracey) $\times 1/2$. *P. mulgraveana* var. *mulgraveana*: E. flower (Jessup 746) $\times 2$. F. female flower with inner petals removed (Jessup 604) $\times 2$. G. single inner petal (Jessup 604) $\times 2$. H. fruit (Sankowsky 356) $\times 1$. I. L.S. monocarp with 2 seeds (Sankowsky 356) $\times 1$. J. leaf (Jessup 604) $\times 1/2$. *P. mulgraveana* var. *glabrescens*: K. flower (Jessup 592) $\times 2$.

Two varieties are recognised

3a. *P. mulgraveana* var. *mulgraveana*

Branchlets and petioles hirtellous; lamina hirtellous on both surfaces, longer and more densely so along the veins on the lower surface.

Specimens examined. Queensland. COOK DISTRICT: Goldsborough State Forest, Mulgrave River, 17°13'S, 145°46'E, Feb 1982, *Jessup* 483 (BRI,L,QRS), 483A (BRI); 17°14'S, 145°46'E, Nov 1982, *Jessup* 534 (BRI), Nov 1984, *Jessup* 604 (BRI), 606 (BRI), 607 (BRI,CANB,K,L,MO,QRS); 17°14'S, 145°46'E, Dec 1984, *Jessup* 746 (BRI,K,L,QRS); National Park Reserve 226 (Harvey Creek), 17°15'S, 145°50'E, Jan 1972, *Hyland* 5787 (BRI,QRS); Harvey Creek, Mar 1922, *White* (BRI); without date or collector AQ210630 (BRI); Bellenden Ker, Jan 1923, *White* (BRI); Miriwinni, near Mt Bartle Frere, in 1962, *Webb & Tracey* 6680 (BRI).

Distribution and Habitat: This variety is found from the Mulgrave River to Miriwinni, northern Queensland and occurs on alluvial terraces and footslopes in mesophyll vine forest on soils derived from several mixed parent materials.

3b. *P. mulgraveana* var. *glabrescens* Jessup, var. nov. differt ab *P. mulgraveana* var. *mulgraveana* indumento ramulorum et petiolorum brevissimo sparso et laminis glabrescentibus. **Typus:** Queensland, Cook District: near Shoteel Creek, Clohesy River, 16°56'S, 145°36'E, 27 Nov 1984, *L.W. Jessup* 590 (female) (holo: BRI; iso: A,BRI,CANB,K,L,MEL,MO,NSW,QRS,U).

Distinguished from *P. mulgraveana* var. *mulgraveana* by the indumentum of the branchlets and petioles being very short and sparse and the glabrescent leaves.

Specimens examined. Queensland. COOK DISTRICT: Black Mountain road, N of Kuranda, Oct 1986, *Sankowsky* 546 (BRI); near Shoteel Creek, Clohesy River, 16°56'S, 145°36'E, Nov 1984, *Jessup* 590 (A,BRI,CANB,K,L,MEL,MO,NSW,QRS,U), 592 (BRI,K,L,QRS), 594 (BRI); Freshwater Creek, near Cairns, Jun 1928, *Francis* (BRI); Cairns, in 1897, *Nugent* 188 (BRI); no date, *Manski* AQ210840 (BRI); Davies Creek, 17°05'S, 145°35'E, Aug 1954, *Smith* 5254 (BRI); in 1962, *Webb & Tracey* 7382 (BRI,CANB,QRS); Lock Creek, ca 12 miles [20 km] along Davies Creek Forestry Road, Oct 1962, *Smith* 12064 (BRI); end of Davies Creek Road, Jan 1962, *Webb & Tracey* 5600 (BRI); State Forest Reserve 607, 17°05'S, 145°35'E, Oct 1967, *Hyland* 3795 (BRI); State Forest Reserve 675, East Mulgrave Logging Area, 17°05'S, 145°40'E, Dec 1976, *Hyland* 9252 (BRI,QRS), 9253 (BRI,QRS); Jan 1977, *Gray* 268 (BRI,QRS); State Forest 185, Danbulla, 17°07'S, 145°37'E, Nov 1982, *Jessup* 538 (BRI); Danbulla, 17°09'S, 145°37'E, Sep 1949, *Byrne* 2 (BRI).

Distribution and Habitat: This variety is found from just north of Kuranda to Little Mulgrave River, in northern Queensland and occurs on uplands and foothills extending in places down to lower footslopes in notophyll vine forest mostly on soils derived from granite and metamorphic rocks.

Affinities: *P. mulgraveana* appears most closely related to *P. villosa* and both varieties differ from it by obovate to depressed obovate and shorter outer petals and the abaxial leaf surfaces being hirtellous, glabrescent.

Etymology: The valleys of the Mulgrave and Little Mulgrave River form a significant and central part of the species' distribution.

The Francis collection from Freshwater Creek was annotated by C.T.White sometime after 1930 with the following note: 'should say *M. froggattii* after examination of the types C.T.W.' This incorrect determination led to the subsequent misapplication of the name *Mitrephora froggattii* to this species by Queensland botanists.

4. *Pseuduvaria villosa* Jessup, sp. nov.

Frutex vel arbor usque 4 m alta. Folia oblanceolata vel obovata, acuminata obtusa vel acuta, supra hirtella glabrescentia infra villosa. Lamina 8–20 cm longa et 2–7 cm lata; basi rotundata vel parum cordata. Petiolus 2–4 mm longus, villosus. Flores axillares terminales vel superi ramali, pendentes solitari vel 2 vel 3 invicem maturantes. Pedicelli 30–50 mm longi, villosi; bractea submedia 0.8–1 mm longa. Lobi calycis ovati vel triangulares, acuti 2.5–4 mm longi, exter pubescentes intra glabri. Petala exteriora late ovata, acuta vel acuminata 10–15 mm longa et 8–10 mm lata, exter pubescentia intra glabra. Petala interiora exter pubescentia intra glabra; tholus 11–15 mm longus et 13–16 mm diametro; laminae 12–16 mm latae. Flores masculi: stamina 1.1–1.3 mm longa et 0.8–1 mm lata. Flores feminei: ovaria circa 40, pilosa; ovula 1 vel 2. Monocarpia matura obovoidea vel ellipsoidea, 15–20 mm longa, puberulenta, armeniaca. Semina 1 vel 2; testa scrobiculata, porphyrea. **Typus:** Queensland, Cook District: Crawford's Lookout to Tchupalla Falls track, Palmerston National Park, North Johnstone River, 17°37'S, 145°47'E, 15 Feb 1982, *Jessup* 472 & *Tracey* (male) (holo: BRI).

Shrub or small tree to 4 m high and 10 cm d.b.h. Branchlets \pm flexuose. Innovations densely covered with long soft pale brown hairs. Leaves oblanceolate or obovate, acuminate, obtuse or acute, hirtellous, glabrescent above, villous below. Lamina 8–20 cm \times 2–7 cm; base rounded or slightly cordate; midvein sunken above, raised below; secondary veins mostly 8–10 pairs. Petiole 2–4 mm long, villous. Flowers axillary, terminal or upper ramal, pendulous, solitary or 2 or 3 maturing successively. Pedicels 30–50 mm long, villous; submedial bract 0.8–1 mm long. Calyx lobes ovate or triangular, acute, 2.5–4 mm long, pubescent outside, glabrous inside. Outer petals broadly ovate, acute or acuminate 10–15 mm \times 8–10 mm, pubescent outside, glabrous inside. Inner petals pubescent outside, glabrous inside; dome 11–15 mm long and 13–16 mm diameter; blades 12–16 mm wide. Male flowers: stamens 1.1–1.3 mm \times 0.8–1 mm. Female flowers: ovaries *ca* 40, pilose; ovules 1 or 2. Ripe monocarps obovoid or ellipsoid, 15–20 mm long, puberulent, orange. Seeds 1 or 2; testa scrobiculate, red-brown. **Fig 2.**

Specimens examined. Queensland. COOK DISTRICT: Berner Creek, Innisfail, *Petrie* 23 (BRI); Lower Palmerston Highway, W of Innisfail, 17°34'S, 145°45'E, May 1972, *Webb & Tracey* 11446 (BRI); Gregory Falls, Lower Palmerston via Innisfail, in 1962, *Webb & Tracey* 6595 (BRI); Crawford's Lookout, 17°36'S, 145°47'E, Jan 1986, *Sankowsky & Sankowsky* 464 (BRI), 464A (QRS); Crawford's Lookout to Tchupalla Falls track, Palmerston National Park, North Johnstone River, 17°37'S, 145°47'E, Feb 1982, *Jessup* 472 & *Tracey* (BRI), 472A (BRI, QRS); Palmerston National Park, North Johnstone River, 17°36'S, 145°46'E, Dec 1984, *Jessup* 745 (BRI); Liverpool Creek, W of Silkwood, 17°44'S, 145°51'E, Dec 1984, *Jessup* 733 (BRI).

Distribution and Habitat: This species is found from the North Johnstone River to Liverpool Creek, in northern Queensland and occurs in the understorey of complex mesophyll vine forest on basalt derived soil or alluvial terraces formed substantially from basaltic parent material.

Affinities: *P. villosa* appears most closely related to *P. mulgraveana* and differs from it by the broadly ovate, acute or acuminate outer petals and the abaxial leaf surfaces being conspicuously villous.

Etymology: The specific epithet refers to the long soft hairs on the leaves and branchlets.

Acknowledgements

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